

THAT CLAIMED IS:

1. A stator for a power generator, the stator comprising:
a plurality of laminations having a plurality of spaced-apart stator coil slots formed therein;
- 5 stator coil slot contents positioned in each of the plurality of stator coil slots, said stator coil slot contents including at least one stator coil;
a coil support finger plate positioned at an end portion of the plurality of stator coil slots, the coil
- 10 support finger plate having a base and a plurality of fingers extending outwardly from the base between the plurality of spaced-apart stator coil slots, the base including a stator slot contents support portion positioned to underlie end portions of the stator slot
- 15 contents and to support the end portions of the stator coil slot contents thereon so that the stator slot contents support portion defines a stator slot bottom at the coil support finger plate.
2. A stator as defined in Claim 1, wherein the end portions of the stator slot contents abuttingly contact the stator slot bottom so that the stator slot bottom of the coil support finger plate radially supports the stator
- 5 slot contents.
3. A stator as defined in Claim 1, wherein the stator slot contents include a layer of readily conformable material underlying the at least one stator coil to enhance protection of the at least one stator coil
- 5 from the outer surface of the stator slot bottom, and wherein the conformable material layer overlies and abuttingly contacts the stator slot bottom and underlies and abuttingly contacts the at least one stator coil so that the stator slot bottom supports both the conformable
- 10 material layer and the at least one stator coil.

4. A stator as defined in Claim 3, wherein the at least one stator coil comprises a first stator slot coil overlying and abuttingly contacting the conformable material layer and a second stator slot coil overlying the 5 first stator slot coil within the stator slot.

5. A stator as defined in Claim 1, wherein the plurality of fingers includes a plurality of spaced-apart pairs of fingers, wherein the stator coil slot bottom is positioned between each of the plurality of spaced-apart 5 pairs of fingers, and wherein at least a pair of fingers of the plurality of fingers of the coil support finger plate each extend outwardly between an adjacent pair of end portions of the plurality of spaced-apart stator coil slots, the at least a pair of fingers including first and 10 second fingers, distal end portions of the first finger extending outwardly a greater distance from the base than the second finger.

6. A stator as defined in Claim 5, wherein the first and second fingers are spaced-apart from each other and the greater-distance extending distal end portions of first finger being positioned adjacent distal side 5 peripheries of each of the adjacent pair of end portions of stator coil slots and spaced-apart from distal end portions of the second finger, wherein medial portions of the first finger extends along only side peripheries of one of the end portions of the pair of stator coil slots, 10 and wherein the second finger extends along only side peripheries of another one of the end portions of the pair of stator coil slots.

7. A stator as defined in Claim 6, wherein the distal end portions of the first finger has a first wedge land formed in a region thereof adjacent the one of the

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end portions of the pair of stator slot coils, and wherein
5 the spaced-apart region between the distal end portions of
the second finger and the distal end portions of the first
finger define a second wedge land for the another one of
the end portions of the pair of stator coil slots so that
the first wedge land for the end portion of the one stator
10 slot is formed by a first pair of fingers having first and
second fingers thereof and the second wedge land for the
end portion of the one stator slot is formed by a second
pair of fingers having first and second fingers thereof.

8. A stator as defined in Claim 7, wherein the
second wedge land includes an extended wedge capture
region positioned to capture extended regions of a wedge
when positioned therein to thereby enhance the securing of
5 the wedge within the first and second wedge lands.

9. A coil support finger plate for a stator of a
power generator, the coil support finger plate comprising:
a base; and
a plurality of fingers extending outwardly from the
5 base so that at least one of the plurality of fingers also
extends between end portions of a pair of stator coil
slots when positioned adjacent thereto, and
wherein the base includes a stator slot contents
support portion positioned to underlie contents of an end
10 portion of a stator coil slot and to radially support the
stator coil slot contents thereon, the stator slot
contents including at least one stator coil.

10. A coil support finger plate as defined in Claim
9, wherein the end portions of the stator slot contents
abuttingly contact the stator slot contents support
portion when positioned within a stator coil slot having
5 the coil support finger plate so that the stator slot

contents support portion defines a stator slot bottom at the coil support finger.

11. A coil support finger plate as defined in Claim 10, wherein the stator slot contents include a layer of readily conformable material underlying the at least one stator coil to enhance protection of the at least one stator coil from the outer surface of the stator slot bottom, and wherein the conformable material layer overlies and abuttingly contacts the stator slot bottom and underlies and abuttingly contacts end portions of the at least one stator coil so that the stator slot bottom supports both the conformable material layer and the at least one stator coil.

12. A coil support finger plate as defined in Claim 11, wherein the plurality of fingers includes a plurality of spaced-apart pairs of fingers, wherein the stator coil slot bottom is positioned between each of the plurality of spaced-apart pairs of fingers, and wherein at least a pair of fingers of the plurality of fingers of the coil support finger plate each extend outwardly between an adjacent pair of end portions of a plurality of spaced-apart stator coil slots of a stator, the at least a pair of fingers including first and second fingers, distal end portions of the first finger extending outwardly a greater distance from the base than the second finger.

13. A coil support finger plate as defined in Claim 12, wherein the first and second fingers are spaced-apart from each other and the greater-distance extending distal end portions of first finger being positioned adjacent distal side peripheries of each of the adjacent pair of end portions of stator coil slots and spaced-apart from distal end portions of the second finger, wherein medial portions of the first finger extends along only side

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peripheries of one of the pair of stator coil slots, and
10 wherein the second finger extends along only side peripheries of another one of the pair of stator coil slots.

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14. A coil support finger plate as defined in Claim 13, wherein the distal end portions of the first finger has a first wedge land formed in a region thereof adjacent the one of the end portions of the pair of stator slot coils, and wherein the spaced-apart region between the distal end portions of the second finger and the distal end portions of the first finger define a second wedge land for the another one of the end portions of the pair of stator coil slots so that the first wedge land for the 10 one stator slot is formed by a first pair of fingers having first and second fingers thereof and the second wedge land for the one stator slot is formed by a second pair of finger having first and second fingers thereof.

15. A coil support finger plate as defined in Claim 14, wherein the second wedge land includes an extended wedge capture region positioned to capture extended regions of a wedge when positioned therein to thereby 5 enhance the securing of the wedge within the first and second wedge lands.

16. A coil support finger plate for a stator of a power generator, the coil support finger plate comprising:
a base; and
a plurality of fingers extending outwardly from the 5 base so that at least one of the plurality of fingers also extends between end portions of a pair of stator coil slots when positioned adjacent thereto, the at least one of the plurality of fingers having a distal end portion thereof being positioned adjacent distal side peripheries

10 of each of the end portions of the pair of stator coil slots and medial portions of the at least one of the plurality of fingers extending along only side peripheries of one of the end portions of the pair of stator coil slots.

17. A coil support finger plate as defined in Claim 16, wherein the plurality of fingers includes a plurality of spaced-apart pairs of fingers, wherein the at least one finger comprises at least a pair of fingers, and wherein
5 the at least a pair of fingers of the plurality of fingers of the coil support finger plate each extend outwardly between an adjacent pair of end portions of a plurality of spaced-apart stator coil slots of a stator, the at least a pair of fingers including first and second fingers,
10 distal end portions of the first finger extending outwardly a greater distance from the base than the second finger.

18. A coil support finger plate as defined in Claim 17, wherein the first and second fingers are spaced-apart from each other and the greater-distance extending distal end portions of first finger being positioned adjacent
5 distal side peripheries of each of the adjacent pair of the end portions of stator coil slots and spaced-apart from distal end portions of the second finger, wherein medial portions of the first finger extends along only side peripheries of one of the end portions of the pair of
10 stator coil slots, and wherein the second finger extends along only side peripheries of another one of the end portions of the pair of stator coil slots.

19. A coil support finger plate as defined in Claim 18, wherein the distal end portions of the first finger has a first wedge land formed in a region thereof adjacent the one of the pair of stator coils, and wherein the

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- 5 spaced-apart region between the distal end portions of the second finger and the distal end portions of the first finger define a second wedge land for the another one of the end portions of the pair of stator coil slots so that the first wedge land for the one stator slot is formed by 10 a first pair of fingers having first and second fingers thereof and the second wedge land for the one stator slot is formed by a second pair of fingers having first and second fingers thereof.

20. A coil support finger plate as defined in Claim 19, wherein the second wedge land includes an extended wedge capture region positioned to capture extended regions of a wedge when positioned therein to thereby 5 enhance the securing of the wedge within the first and second wedge lands.

21. A method for supporting a stator coil to thereby reduce vibrations within a stator, the method comprising: radially supporting the bottom of end portions of the contents of a stator coil slot by the use of a coil 5 support finger plate having a base portion thereof which defines a stator coil slot bottom.

22. A method as defined in Claim 21, further comprising positioning first and second stator slot wedges each to overlie a corresponding one of end portions of first and second stator coil slots and in first and second 5 spaced-apart, wedge lands formed in the coil support finger plate, the first wedge land for the first wedge being formed in a distal end portion of at least one finger of the coil support finger plate extending between end portions of the first and second stator coil slots and 10 the second wedge land for the second wedge being formed in the distal end portion of the same at least one finger of the coil support finger plate.

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23. A method as defined in Claim 22, wherein the at least one finger also has medial portions thereof which extend along side peripheries of only one of the end portions of the first and second stator coil slots.

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